

Supportability Assessment in T&E: A Tool for Better Acquisitions

Dr. Mike Bridgman

Logistics Management Institute

March 2001

National Summit on U.S. Defense Policy:
Acquisition, Research, Test and Evaluation



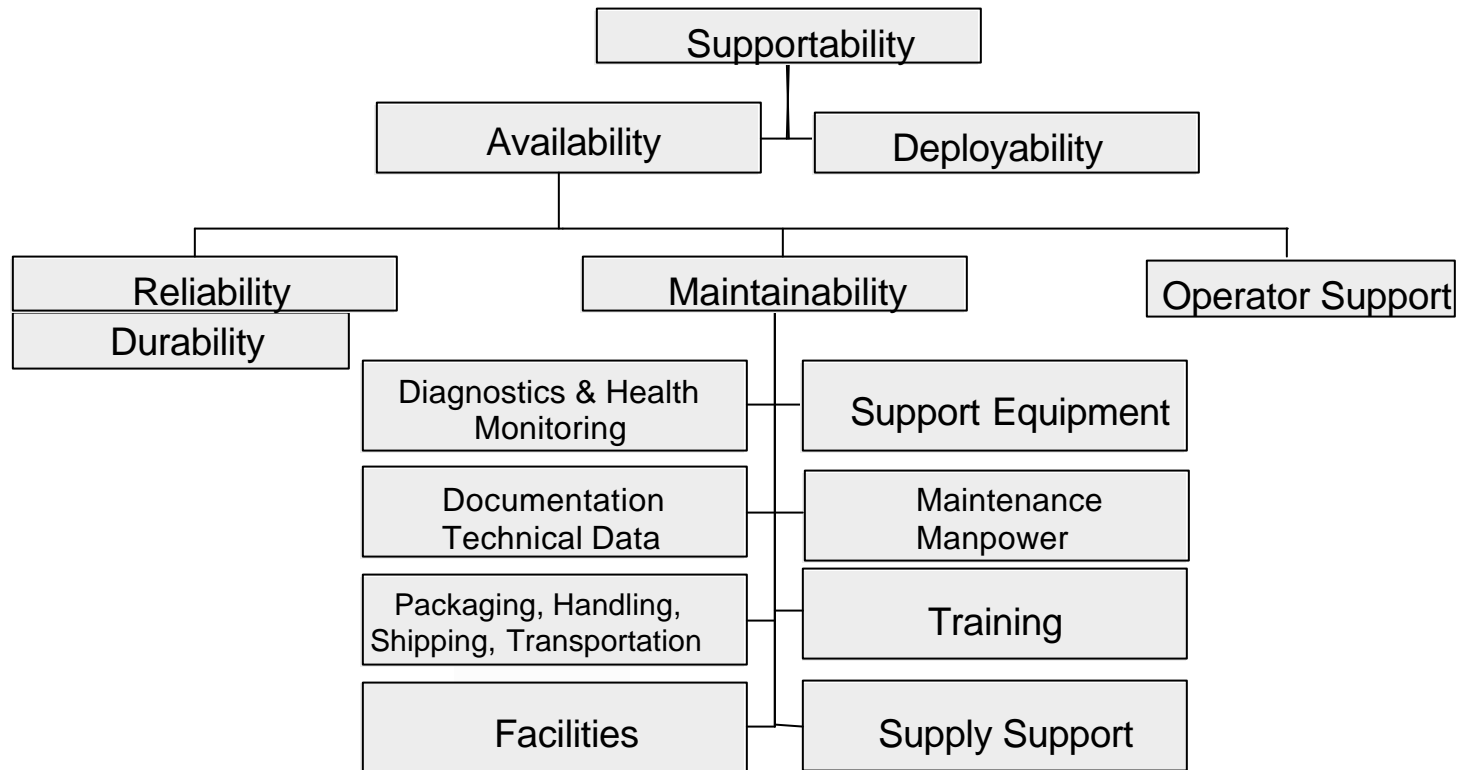
Three Questions

Why worry about supportability
during acquisition?

Why use T&E to assess supportability?

How can T&E be used to
assess supportability?

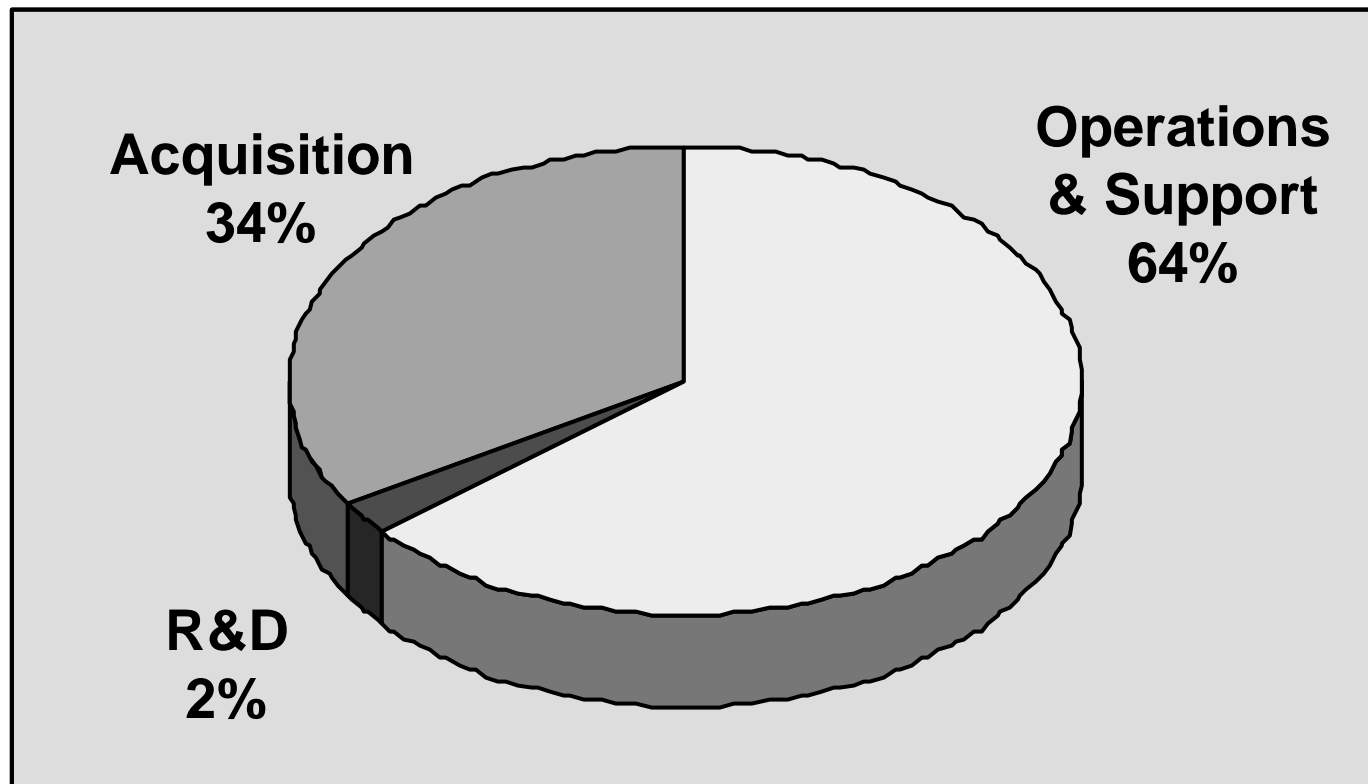
Elements of Supportability



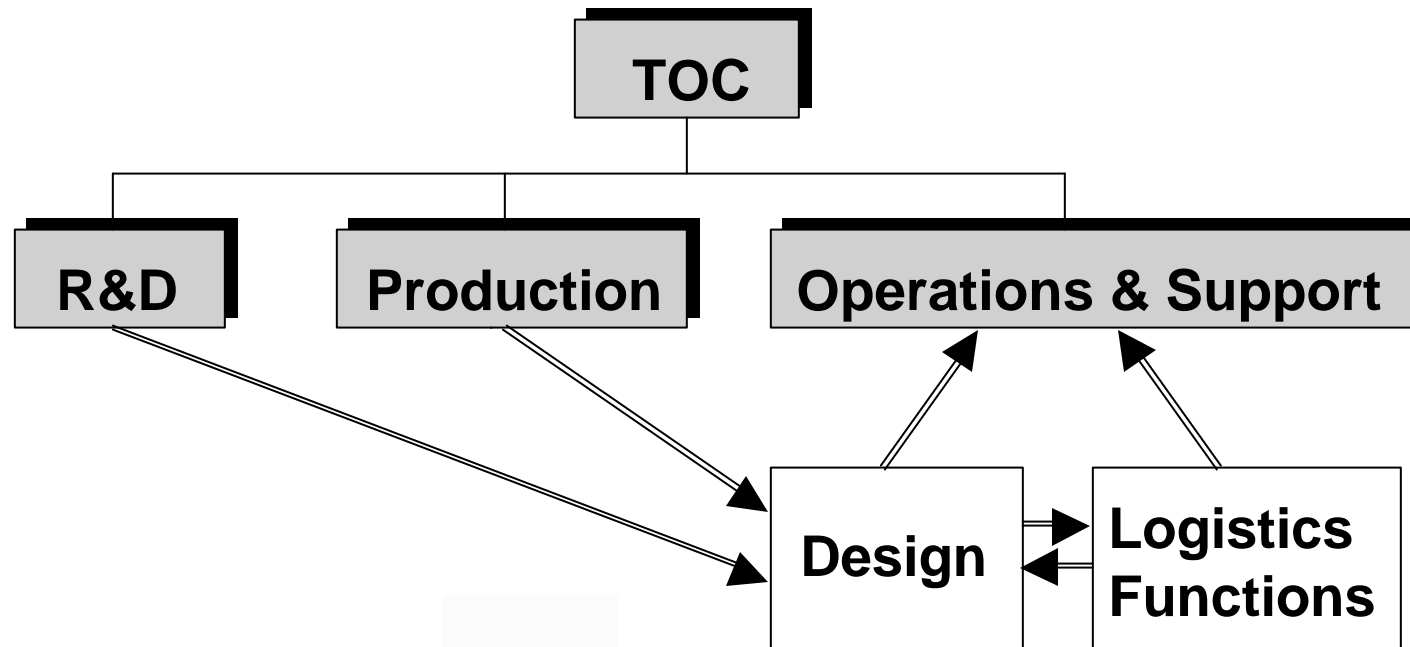
Why Worry About Supportability During Acquisition?

- Support costs are major component of total ownership cost
- Decisions made during acquisition drive support costs and availability
- Relationship between design and requirements for O&S resources

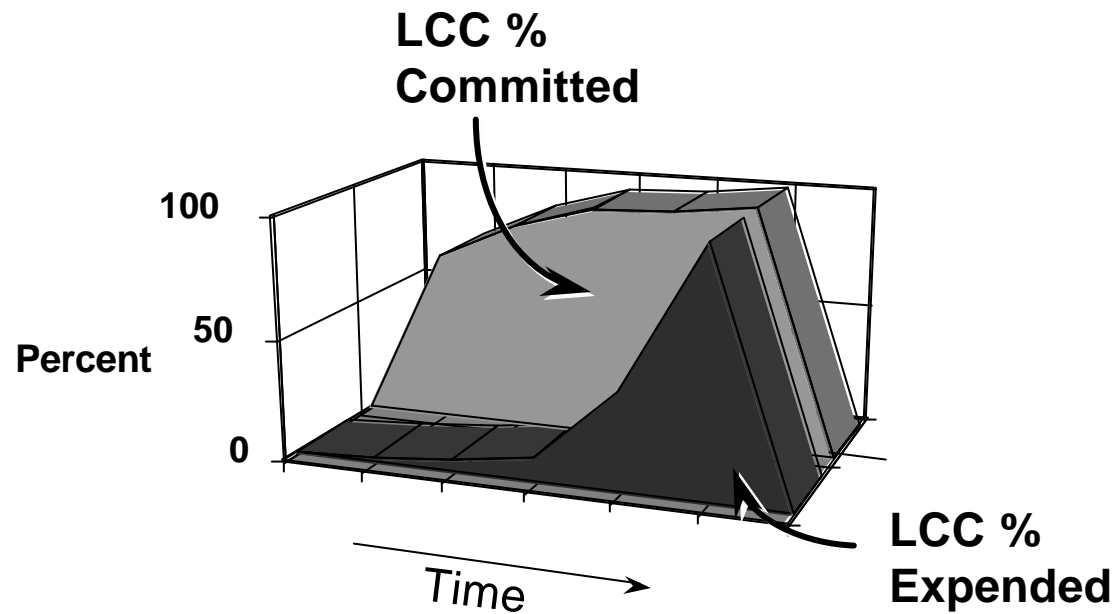
Typical TOC Composition



Total Ownership Cost

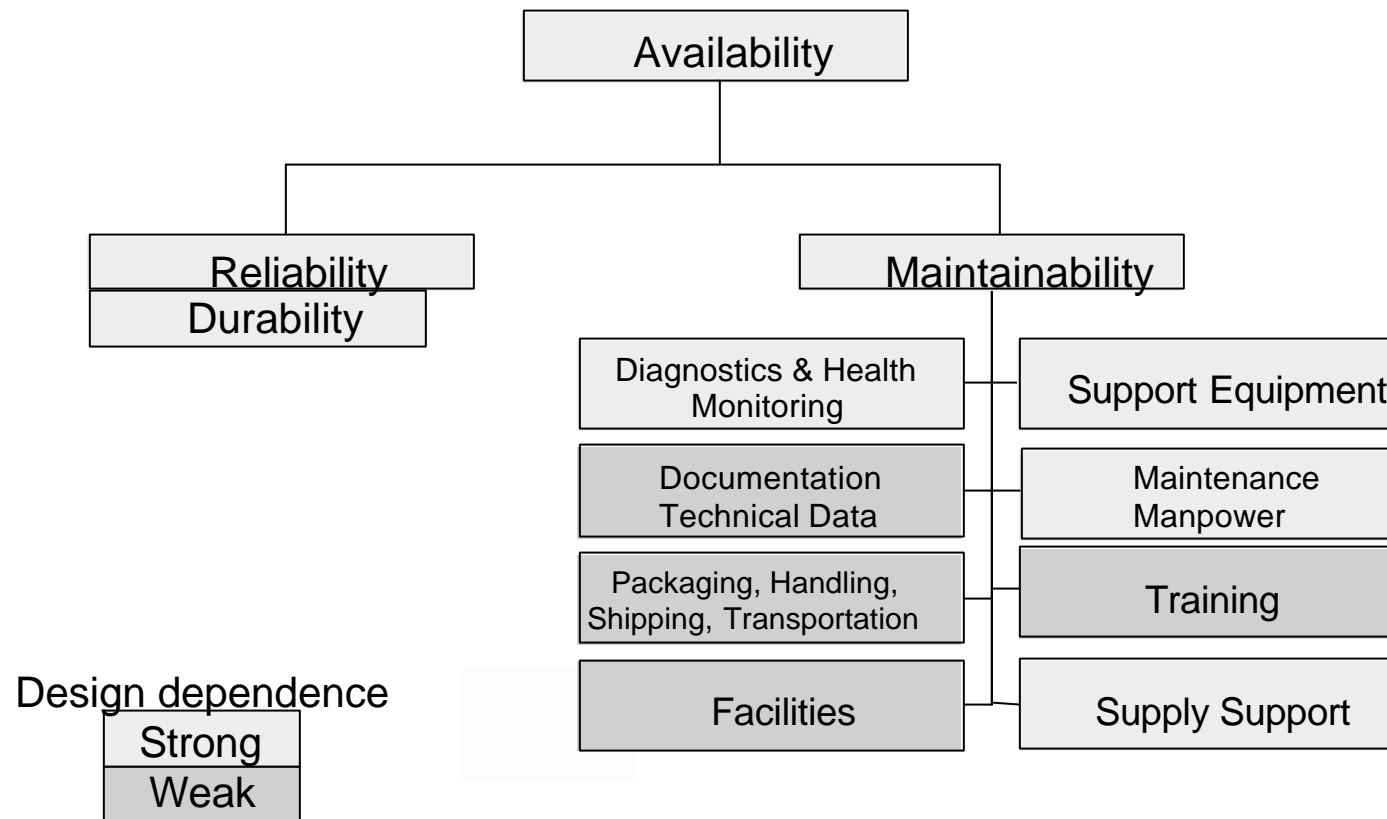


TOC Commitment



**Major cost reductions in weapon system support
require early recognition of supportability
issues and opportunities.**

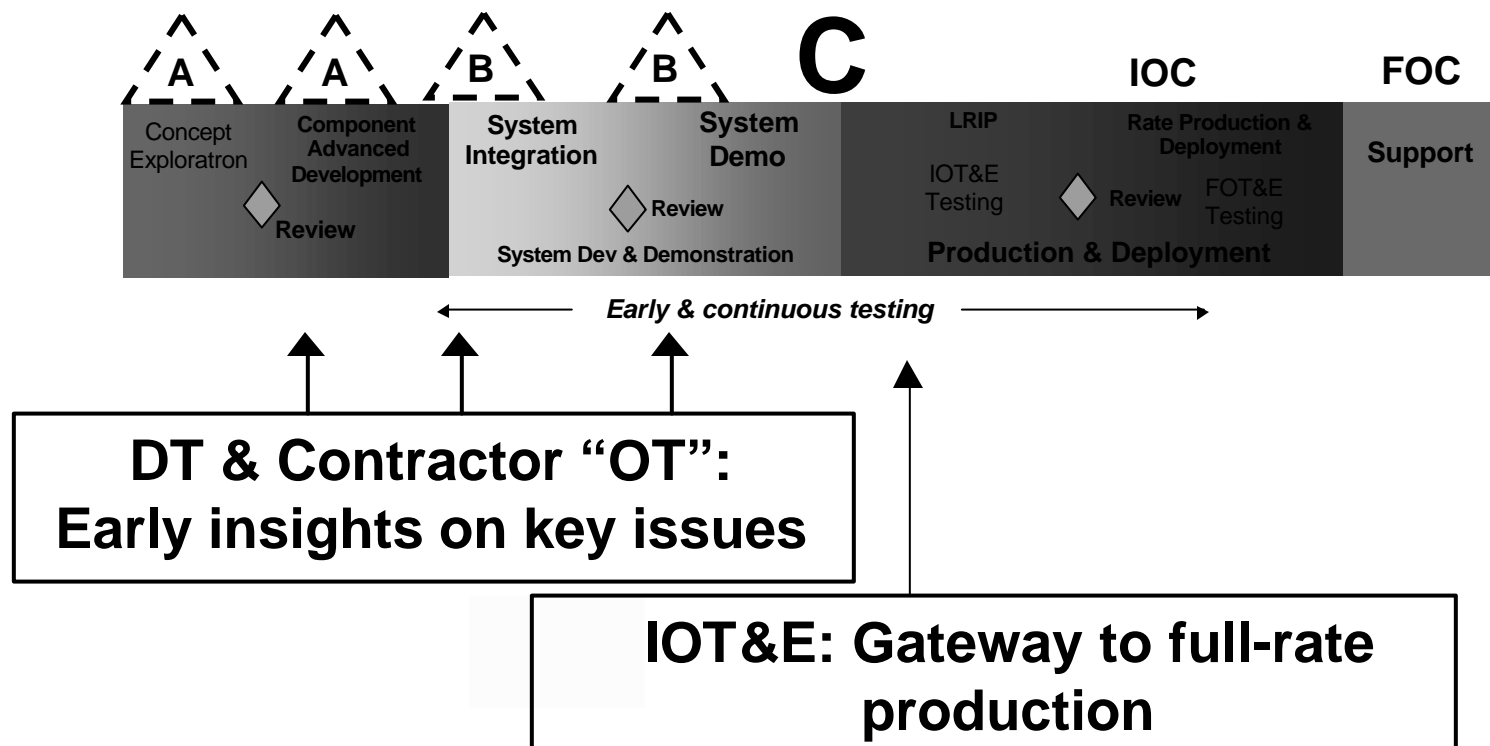
Dependence of Availability on Design



Why Use T&E to Assess Supportability?

- T&E is established as an integral part of the acquisition process
- T&E has gateways and check points for assessments of supportability
- ...at times when the insights can be used to affect cost & availability

Acquisition Timeline



Acquisition Process

**IDEAL: Balanced consideration of TOC,
readiness, performance, and risk**

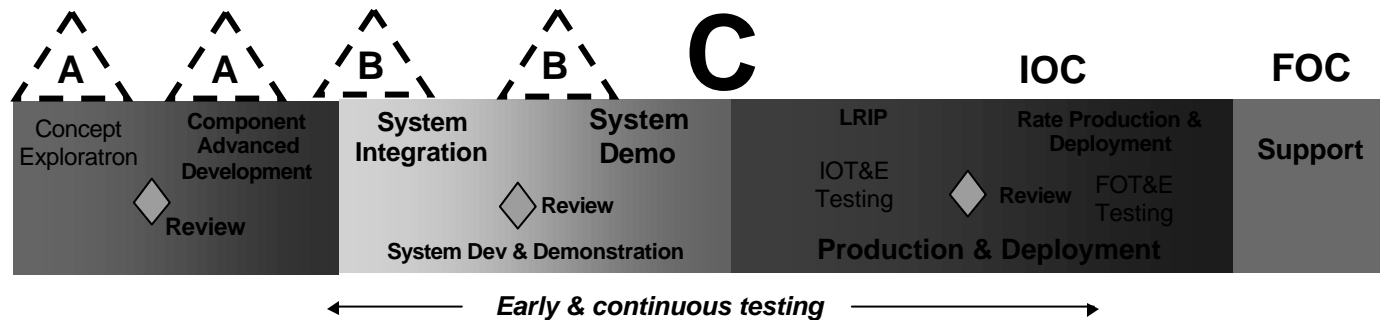
**REALITY: traditional pressures on a program office
- performance, schedule, and acquisition budget -
work against consideration of O&S costs
and supportability**

***T&E is a key opportunity to gain insights
about the first-order causal factors
that drive costs and availability***

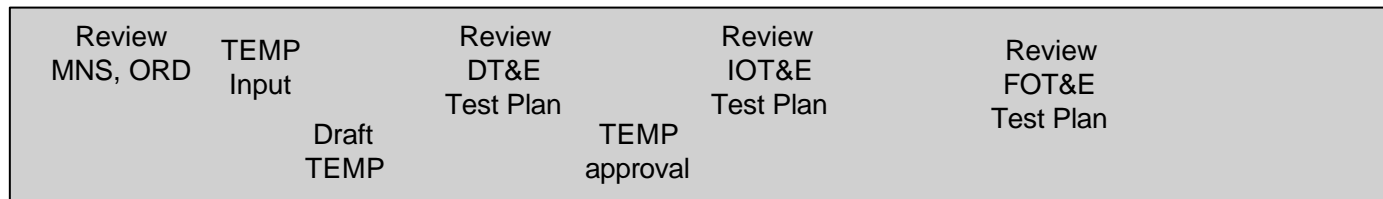
How Can T&E Be Used to Assess Supportability?

- Planning for TEMP - Extract supportability criteria from program docs and analogies.
- TEMP - Include all critical supportability issues
 - *Objective criteria (e.g., RAM, BIT/BITE)*
 - *Subjective judgement of the process (T.O.s)*
 - *Ensure supplemental demos and M&S activities are included to complement tests*
- Test plans for IOT&E, FOT&E - follow through

Acquisition Timeline



T&E Actions



Identify Key Supportability Issues

- Supportability characteristics that will seriously degrade system availability or cost if they are deficient
- Risks associated with
 - *Technology applications*
 - *Support concepts*
 - *Operations concepts*
- Logistics resource drivers

Methods for Identifying Key Supportability Issues

Document Review	Analysis	Modeling & Simulation
List issues & goals from system rqmts documents	Compare with other systems	Construct model of system, including ops & support
Check for coverage of issues & goals in TEMP	Review the elements of logistics support	Analyze the impacts of changes in ops & support variables
	Analyze relations among measures and assumptions	

Review OT&E Plans

- Are all key supportability issues addressed through testing or M&S ?
- Are the nature and the length of tests sufficient to judge with reasonable confidence?
- Are the M&S tools valid and are reasonable data and assumptions used?

OT&E Assessment

- Comprehensive with respect to key supportability issues?
- Major assumptions justified?
- Supportability problems that should receive corrective action?
- Supportability issues that require further T&E?

Summary

Supportability is key to
weapon system success

Supportability depends on design

T&E provides a timely opportunity
to develop supportability insights

Process and tools to evaluate
supportability exist -
Use them to improve acquisitions!